

## Polymers exhibiting nonlinear optical properties

**Description of Technology:** This invention relates to polymers having non-linear optical properties. More particularly, this invention relates to such polymers which include fluorene moieties having at least one electron-accepting group and at least one electron-donating group substituted to different phenyl rings of the fluorene moieties.

## **Patent Listing:**

1. **US Patent No.** 5,670,603, Issued on September 23, 1997, "Polymers exhibiting nonlinear optical properties."

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**Market Potential**: Besides high NLO activity, other useful chemical and physical properties are exhibited by the polymer of this invention. They have favorable solubility in spin solvents, and sufficient molecular weight so that they can be applied in thin films by the spin coating procedure; and they are transparent in the desired optical frequency range.

Another embodiment of this invention relates to a non-linear optical medium comprising a substrate of a polymer of this invention. Yet another aspect of this invention relates to an optical device having a nonlinear optical component comprising the polymer of this invention.

## **Benefits:**

- Favorable solubility in spin solvents.
- Sufficient molecular weight.
- Transparent in the desired optical frequency range.

## **Applications:**

• Films.